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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/648,752	08/25/2003	Robbert C. Van Der Linden	SVL920030054US1/2865P	3744

45728 7590 02/28/2006

SAWYER LAW GROUP LLP  
2465 EAST BAYSHORE ROAD, SUITE 406  
PALO ALTO, CA 94303

EXAMINER

COLAN, GIOVANNA B

ART UNIT PAPER NUMBER

2162

DATE MAILED: 02/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/648,752

Applicant(s)

VAN DER LINDEN ET AL.

Examiner

Giovanna Colan

Art Unit

2162

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 25 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>08/25/2003</u> .  | 6) <input type="checkbox"/> Other: _____                                    |

### **DETAILED ACTION**

1. This action is issued in response to applicant filed application on 08/25/2003.
2. Claims 1 – 30 are pending.
3. The information disclosure statement (IDS) submitted on 08/25/2003. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 1 – 5, 9, 11 – 15, 19, 21 – 25, and 29 are rejected under 35 U.S.C. 102(e) as being anticipated by Igata (Igata hereinafter) (US Patent No. 6,853,992 B2, filed: November 30, 2000).

Regarding Claim 1 and 11, Igata discloses a computer readable medium containing programming instructions method for querying a structured document stored in its native format in a database (Fig. 1, item 23, Col. 7, lines 4 – 10, Igata), wherein the structured document comprises a plurality of nodes that form a hierarchical node tree (Col. 4, lines 24 – 27, Igata), the instruction for:

- a) providing at least one child pointer in at least one node of the plurality of nodes, wherein the at least one child pointer points to a corresponding child node of the plurality of nodes (Fig. 8B, Col. 10, lines 38 – 41, “POINTER to CHILDNODE”, Igata);
- b) storing a hint in the at least one child pointer (Fig. 12C, item 41, PART1, PART2, PART3, Col. 14, lines 28 – 33, Igata<sup>1</sup>); and
- c) utilizing the hint to determine whether to navigate to the corresponding child node during query evaluation (Col. 21, lines 21 – 27, Igata).

Regarding Claim 2 and 12, Igata discloses a computer readable medium, wherein the hint is related to the corresponding child node (Fig. 12B, item 41, PART1, Col. 14, lines 16 – 20, Igata).

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<sup>1</sup> Examiner interprets the link in “PART ID” to PART 1, 2 as the hint.

Regarding Claim 3 and 13, Igata discloses a computer readable medium, wherein the hint is a portion of the corresponding child node's name (Fig. 12B, item 41, PART1, 2, 3, Col. 14, lines 16 – 20, Igata<sup>2</sup>).

Regarding Claim 4 and 14, Igata discloses a computer readable medium, wherein utilizing instruction (c) further comprises:

- c1) receiving a query (Col. 4, lines 30 – 31, Igata);
- c2) navigating to a current node of the plurality of nodes in the node tree associated with the structured document (Col. 7 and 10, lines 41 – 45 and 53 – 55; respectively, Igata);
- c3) checking a hint stored in a first child pointer in the current node (Col. 9, lines 39 – 43, wherein the part-ID is used as a search key, Igata); and
- c4) navigating to the corresponding child node based on the checking in step (c3) (Col. 9, lines 41 – 43, Igata<sup>3</sup>).

Regarding Claim 5 and 15, Igata discloses a computer readable medium, wherein checking instruction (c3) further comprises:

- (c3i) comparing the hint to the query (Col. 10, lines 45 – 48 and 53 – 55, Igata<sup>4</sup>).

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<sup>2</sup> Wherein PART1 is a portion. PART2 and PART3 are different portions.

<sup>3</sup> Igata discloses a complete-match search through the document tree. Examiner interprets this search as a navigation through the node tree.

<sup>4</sup> In order to match the structure of the query tree, the system need to complete the step of text-data matching condition which requires a comparison between the two objects.

Regarding Claim 9 and 19, Igata discloses a computer readable medium, wherein the structured document is written in Extensible Markup Language (Col. 10, lines 18 – 21, Igata).

Regarding Claim 21, Igata discloses a system for querying a structured document stored in its native format in a database (Fig. 1, item 23, Col. 7, lines 4 – 10, Igata), wherein the structured document comprises a plurality of nodes that form a hierarchical node tree (Col. 4, lines 24 – 27, Igata), comprising:

- a computer system coupled to at least one data storage device (Fig. 1, item 23, Col. 7, lines 5 – 7, Igata);

- a database management system in the computer system (Fig. 1, item 22, Col. 7, lines 3 – 4, Igata); and

- a storage mechanism in the database management system for providing at least one child pointer in at least one node of the plurality of nodes, wherein the at least one child pointer points to a corresponding child node of the plurality of nodes (Fig. 8B, Col. 10, lines 38 – 41, Igata), and for storing hint information in the at least one child pointers (Fig. 12C, item 41, PART1, Col. 14, lines 28 – 33, Igata);

Regarding Claim 22, Igata discloses a system, wherein the hint is related to the corresponding child node (Fig. 12B, item 41, PART1, Col. 14, lines 16 – 20, Igata).

Regarding Claim 23, Igata discloses a system, wherein the hint is a portion of the corresponding child node's name (Fig. 12B, item 41, PART1, 2, 3, Col. 14, lines 16 – 20, Igata<sup>5</sup>).

Regarding Claim 24, Igata discloses a system, wherein the database management system is configured to receive a query (Col. 4, lines 30 – 31, Igata), to navigate to a current node of the plurality of nodes in the node tree associated with the structured document (Col. 7 and 10, lines 41 – 45 and 53 – 55; respectively, Igata), to check a hint stored in a first child pointer in the current node (Col. 9, lines 39 – 43, wherein the part-ID is used as a search key, Igata), to navigate to the corresponding child node based on the hint (Col. 9, lines 41 – 43, Igata<sup>6</sup>).

Regarding Claim 25, Igata discloses a system, wherein the database management system is further configured to compare the hint to the query (Col. 10, lines 45 – 48 and 53 – 55, Igata<sup>7</sup>).

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<sup>5</sup> Wherein PART1 is a portion. PART2 and PART3 are different portions.

<sup>6</sup> Igata discloses a complete-match search through the document tree. Examiner interprets this search as navigation through the node tree.

<sup>7</sup> In order to match the structure of the query tree, the system need to complete the step of text-data matching condition, which requires a comparison between the two objects.

Regarding Claim 29, Igata discloses a system, wherein the structured document is written in Extensible Markup Language (Col. 10, lines 18 – 21, Igata).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claim 6, 10, 16, 20, 26, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Igata (Igata hereinafter) (US Patent No. 6,853,992 B2, filed:



November 30, 2000), and further in view of Manikutty et al. (Manikutty hereinafter) (US Patent No. 6,836,778 B2, filed: May 1, 2003).

Regarding Claim 6 and 16, Igata discloses all the limitations as disclosed above including computer readable medium, wherein navigating instruction (c4) further comprises: (c4i) navigating to the corresponding child node if the hint matches the query (Col. 10, lines 53 – 55, Igata); and (c4ii) comparing the child node's name to the query to determine whether the child node satisfies the query (Col. 10, lines 45 – 48 and 53 – 55, match the structure of the query tree, Igata). However, Igata is silent with respect to a namespace. On the other hand, Manikutty discloses XML documents node trees including namespaces (Col. 14, lines 1 – 3, Manikutty). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Manikutty including namespaces to the system and method of Igata. Skilled artisan would have been motivated to do so, as suggested by Manikutty, in order to allow documents to contain elements from several distinct XML schema (Col. 1, lines 54 – 58, Manikutty).

Regarding Claim 10 and 20, the combination of Igata in view of Manikutty discloses a computer readable medium, wherein the query is an Xpath or an Xquery expression (Col 11, lines 15 – 19, Manikutty).

Regarding Claim 26, the combination of Igata in view of Manikutty discloses a system, wherein the database management system is further configured to navigate to the corresponding child node if the hint matches the query (Col. 10, lines 53 – 55, Igata), and to compare the child node's name and namespace to the query to determine whether the child node satisfies the query (Col. 14, lines 1 – 3, Manikutty).

Regarding Claim 30, the combination of Igata in view of Manikutty discloses a system, wherein the query is an Xpath or an Xquery expression (Col 11, lines 15 – 19, Manikutty).

8. Claim 7 – 8, 17 – 18, and 27 – 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Igata (Igata hereinafter) (US Patent No. 6,853,992 B2, filed: November 30, 2000) in view of Bailey (Bailey hereinafter) (US Patent App. Pub. No. 2004/0243553 A1).

Regarding Claim 7 and 17, Igata discloses all the limitations as disclosed above including navigation instructions (Col. 7 and 10, lines 41 – 45 and 53 – 55; respectively, Igata). However, Igata does not explicitly disclose skipping child nodes. On the other hand, Bailey discloses a system and method for navigating (c4) further comprises: (c4i) skipping over the corresponding child node if the hint does not match the query (Page 5, [0045], lines 20 – 22, Bailey). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Bailey to the

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system and method of Igata. Skilled artisan would have been motivated to do so, as suggested by Bailey, to provide a technique for access, utilizing a tree without traversing the tree down to its leaves (Page 1, [0003], lines 14 – 20, Bailey).

Regarding Claim 8 and 18, the combination of Igata in view of Bailey discloses a computer readable medium, wherein the utilizing instruction (c) further comprises:

(c5) determining whether another child pointer exists in the current node (Fig. 5, item 66, Page 5, [0046], lines 12 – 13, Bailey<sup>8</sup>);

(c6) checking the hint stored in the another child pointer if the another child pointer exists, and navigating to the corresponding child node based on the checking (Fig. 5, item 68, Page 5, [0046], lines 15 – 18, Bailey);

(c7) repeating steps (c5) and (c6) (Fig. 5, items 66 and 52, Page 5, [0046], lines 18 – 21, Bailey); and

(c8) navigating to a next node of the plurality of nodes in the node tree if the another child pointer does not exist, and repeating steps (c3) through (c7), wherein the next node becomes the current node (Page 5, [0046], lines 11 – 14, Bailey).

Regarding Claim 27, the combination of Igata in view of Bailey discloses a system, wherein the database management system is further configured to skip over the corresponding child node if the hint does not match the query (Page 5, [0045], lines 20 – 22, Bailey).

Regarding Claim 28, the combination of Igata in view of Bailey discloses a system, wherein the database management system is further configured to determine whether another child pointer exists in the current node (Fig. 5, item 66, Page 5, [0046], lines 12 – 13, Bailey<sup>9</sup>), to check the hint stored in the another child pointer if the another child pointer exists (Fig. 5, item 68, Page 5, [0046], lines 15 – 18, Bailey), to navigate to the corresponding child node based on the hint (Fig. 5, item 68, Page 5, [0046], lines 15 – 18, Bailey), and to navigate to a next node of the plurality of nodes in the node tree if the another child pointer does not exist (Page 5, [0046], lines 11 – 14, Bailey).

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<sup>8</sup> Examiner interprets determining if the current node is a leaf node (as taught in Bailey's disclosure), as a method for determining whether a child pointer exists.

<sup>9</sup> Examiner interprets determining if the current node is a leaf node (as taught in Bailey's disclosure), as a method for determining whether a child pointer exists.

***Prior Art Made Of Record***

1. Igata (US Patent No. 6,853,992 B2, filed: November 30, 2000) discloses a structured-document search apparatus and method, recording medium storing structured-document searching program, and method of creating indexes for searching structured documents.
2. Manikutty et al. (US Patent No. 6,836,778 B2, filed: May 1, 2003) discloses techniques for changing XML content in a relational database.
3. Bailey (US Patent App. Pub. No. 2004/0243553 A1) discloses positional access using a b-tree.
4. Non-Patent Literature: Masatoshi Yoshikawa et al., "Xrel: A Path-Based Approach to Storage and Retrieval of XML Documents Using Relation Databases," Japan, ACM 2001.
5. Non-Patent Literature: Lin Guo et al., "XRANK: Ranked Keyword Search over XML Documents," ACM, SIGMOD 2003, June 9 – 12, 2003, San Diego, CA.
6. Non-Patent Literature: V. Christophides et al., "Querying Structured Documents with Hypertext Links using OODBMS," France, ACM 1998.

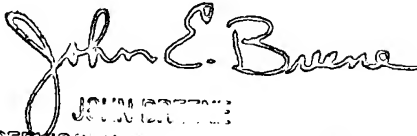
***Points Of Contact***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Giovanna Colan whose telephone number is (571) 272-2752. The examiner can normally be reached on 7:30 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached on (571) 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Giovanna Colan  
Examiner  
Art Unit 2162  
February 17, 2006

  
JOHN E. BREENE  
SUPERVISOR  
TECHNICAL STAFF